

L4 ANSWER 1 OF 4 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
 AN 1999251597 EMBASE
 TI Xerostomia: A prevalent condition in the elderly.
 AU Astor F.C.; Hanft K.L.; Ciocon J.O.
 CS Dr. F.C. Astor, Department of Otolaryngology, Cleveland Clinic Florida,
 3000 W. Cypress Creek Rd., Ft. Lauderdale, FL 33309, United States
 SO Ear, Nose and Throat Journal, (1999) 78/7 (476-479).
 Refs: 20
 ISSN: 0145-5613 CODEN: ENTJDO
 CY United States
 DT Journal; Article
 FS 011 Otorhinolaryngology
 020 Gerontology and Geriatrics
 037 Drug Literature Index
 038 Adverse Reactions Titles
 LA English
 SL English
 AB Although xerostomia is associated with aging, studies have determined that
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 population. Therefore, dry mouth is probably not a condition of aging, but
 most likely one of systemic or extrinsic origin. **Saliva** seems to
 undergo chemical changes with aging. As the amount of ptyalin decreases
 and **mucin** increases, **saliva** can become thick and
 viscous and present problems for the elderly. One of the most prevalent
 causes of xerostomia is medication. Anticholinergics, such as psychotropic
agents and antihistamines, and diuretics can dry the oral mucosa.
 Chronic mouth breathing, radiation therapy, dehydration, and autoimmune
 diseases, such as Sjogren's, can also diminish salivation, as can systemic
 illness such as diabetes mellitus, nephritis, and thyroid dysfunction.
 Xerostomia can lead to dysgeusia, glossodynia, sialadenitis, cracking and
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 denture retention, mastication, and swallowing. Dry mouth symptom can be
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 In patients with Sjogren's syndrome and in those who have undergone
 radiation therapy, pilocarpine has been used recently with good results.
 CT Medical Descriptors:
 *xerostomia: DT, drug therapy
 *xerostomia: ET, etiology
 *xerostomia: RT, radiotherapy
 *xerostomia: SI, side effect
 *aging
 dysgeusia
 glossodynia
 sialoadenitis
 halitosis
 denture
 mastication
 swallowing
dental caries: CO, complication
 diabetes mellitus
 nephritis
 thyroid disease
 human
 male
female
 case report
aged
 article
 Drug Descriptors:
 *pilocarpine: DT, drug therapy

L4 ANSWER 4 OF 4 MEDLINE on STN
 AN 1999357952 MEDLINE
 DN 99357952 PubMed ID: 10429321
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 Journal code: 7701817. ISSN: 0145-5613.
 CY United States
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 LA English
 FS Priority Journals
 EM 199908
 ED Entered STN: 19990910
 Last Updated on STN: 19990910
 Entered Medline: 19990826
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 Aged
 Aged, 80 and over
 Aging: PH, physiology
 Geriatric Assessment
 Middle Age
 Prevalence
 *Xerostomia: DI, diagnosis
 Xerostomia: EP, epidemiology

=>

*mucin: EC, endogenous compound
cholinergic receptor blocking agent: AE, adverse drug reaction
psychotropic agent: AE, adverse drug reaction
antihistaminic agent: AE, adverse drug reaction
diuretic agent: AE, adverse drug reaction
nortriptyline: AE, adverse drug reaction

RN antidepressant agent: AE, adverse drug reaction
(pilocarpine) 148-72-1, 54-71-7, 92-13-7; (nortriptyline) 72-69-5,
894-71-3

L4 ANSWER 2 OF 4 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
AN 93207515 EMBASE
DN 1993207515
TI Sialochemistry: A diagnostic tool?.
AU Aguirre A.; Testa-Weintraub L.A.; Banderas J.A.; Haraszthy G.G.; Reddy
 M.S.; Levine M.J.
CS Oral Biol./Dental Res. Inst. Dept., School of Dental Medicine, State
 University of New York, Buffalo, NY 14214, United States
SO Critical Reviews in Oral Biology and Medicine, (1993) 4/3-4 (343-350).
 ISSN: 1045-4411 CODEN: CROME
CY United States
DT Journal; Conference Article
FS 005 General Pathology and Pathological Anatomy
 011 Otorhinolaryngology
 029 Clinical Biochemistry
LA English
SL English
CT Medical Descriptors:

***saliva**
 adult
 aged
 antifungal activity
 antimicrobial activity
 bacterial colonization
 chromatography
 conference paper
 controlled study
 dental caries: DI, diagnosis
 enzyme linked immunosorbent assay
 female
 human
 human experiment
 immunoblotting
 male
 parotid gland
 periodontal disease: DI, diagnosis
 polyacrylamide gel electrophoresis
 saliva analysis
 salivary gland disease: DI, diagnosis
 salivation
 xerostomia: DI, diagnosis
 Drug Descriptors:
 *amylase: EC, endogenous compound
 *histatin: EC, endogenous compound
 *immunoglobulin a: EC, endogenous compound
 *lactoferrin: EC, endogenous compound
 *lysozyme: EC, endogenous compound
 ***mucin: EC, endogenous compound**
 *proline: EC, endogenous compound
 amino acid: EC, endogenous compound
 cystatin: EC, endogenous compound
 cysteine proteinase: EC, endogenous compound

glycoprotein: EC, endogenous compound

saliva protein: EC, endogenous compound

statherin: EC, endogenous compound

RN (amylase) 9000-90-2, 9000-92-4, 9001-19-8; (lactoferrin) 55599-62-7;
(lysozyme) 9001-63-2; (proline) 147-85-3, 7005-20-1; (amino acid)
65072-01-7; (cystatin) 81989-95-9; (cysteine proteinase) 37353-41-6;
(statherin) 113690-57-6

L4 ANSWER 3 OF 4 MEDLINE on STN

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EM 200102

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Aged

Aged, 80 and over

*Aging: PH, physiology

DMF Index

Dental Care for Aged

Dental Caries: MI, microbiology

Electrophoresis, Polyacrylamide Gel

Logistic Models

Mucins: AN, analysis

***Mucins: PH, physiology**

Risk Assessment

***Saliva: MI, microbiology**

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 Dental Caries: MI, microbiology
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 SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
 Journal code: 8707451. ISSN: 0902-0055.
 CY Denmark
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Dental Journals
 EM 200102
 ED Entered STN: 20010322
 Last Updated on STN: 20010322
 Entered Medline: 20010215
 AB MG1 (MUC5b and MUC4) and MG2 (MUC7), predominant **mucins** in human
 whole **saliva**, provide lubrication and antimicrobial protection
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 electrophoresis. Logistic regression was used to identify potential
 relationships between the above variables. S. mutans classification
 served as the dependent variable. The remaining variables were possible
 predictor variables. The best model for predicting S. mutans category
 contained log MG2 as a predictor variable for all of its parameter
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 significant. These results suggest that elevated S. mutans titers are
 significantly associated with diminished concentrations of MG2 in
 unstimulated whole **saliva**, as quantified in **mucin**-dye
 binding units.
 CT Check Tags: Female; Human; **Male**; Support, Non-U.S. Gov't;
 Support, U.S. Gov't, P.H.S.
 Aged
 Aged, 80 and over
 *Aging: PH, physiology
 DMF Index
 Dental Care for Aged
 Dental Caries: MI, microbiology
 Electrophoresis, Polyacrylamide Gel
 Logistic Models
 Mucins: AN, analysis
 ***Mucins: PH, physiology**
 Risk Assessment
 ***Saliva: MI, microbiology**
 Saliva: PH, physiology
 Saliva: SE, secretion
 Salivary Proteins: AN, analysis
 ***Salivary Proteins: PH, physiology**
 *Streptococcus mutans: IP, isolation & purification
 CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary Proteins**); 0
 (human **salivary mucin** MG2)

=>

AN 1999251597 EMBASE
 TI Xerostomia: A prevalent condition in the elderly.
 AU Astor F.C.; Hanft K.L.; Ciocon J.O.
 CS Dr. F.C. Astor, Department of Otolaryngology, Cleveland Clinic Florida,
 3000 W. Cypress Creek Rd., Ft. Lauderdale, FL 33309, United States
 SO Ear, Nose and Throat Journal, (1999) 78/7 (476-479).
 Refs: 20
 ISSN: 0145-5613 CODEN: ENTJDO
 CY United States
 DT Journal; Article
 FS 011 Otorhinolaryngology
 020 Gerontology and Geriatrics
 037 Drug Literature Index
 038 Adverse Reactions Titles
 LA English
 SL English
 AB Although xerostomia is associated with aging, studies have determined that **salivary** gland function is well preserved in the healthy geriatric population. Therefore, dry mouth is probably not a condition of aging, but most likely one of systemic or extrinsic origin. **Saliva** seems to undergo chemical changes with aging. As the amount of ptyalin decreases and **mucin** increases, **saliva** can become thick and viscous and present problems for the elderly. One of the most prevalent causes of xerostomia is medication. Anticholinergics, such as psychotropic agents and antihistamines, and diuretics can dry the oral mucosa. Chronic mouth breathing, radiation therapy, dehydration, and autoimmune diseases, such as Sjogren's, can also diminish **salivation**, as can systemic illness such as diabetes mellitus, nephritis, and thyroid dysfunction. Xerostomia can lead to dysgeusia, glossodynia, sialadenitis, cracking and fissuring of the oral mucosa, and halitosis. Oral dryness can affect denture retention, mastication, and swallowing. Dry mouth symptom can be treated with hydration and sialagogues or with artificial **saliva** substitutes. Because patients are at risk for **dental caries**, they should be referred to a dentist for preventive care. In patients with Sjogren's syndrome and in those who have undergone radiation therapy, pilocarpine has been used recently with good results.
 CT Medical Descriptors:
 *xerostomia: DT, drug therapy
 *xerostomia: ET, etiology
 *xerostomia: RT, radiotherapy
 *xerostomia: SI, side effect
 *aging
 dysgeusia
 glossodynia
 sialoadenitis
 halitosis
 denture
 mastication
 swallowing
dental caries: CO, complication
 diabetes mellitus
 nephritis
 thyroid disease
 human
male
 female
 case report
 aged
 article
 Drug Descriptors:
 *pilocarpine: DT, drug therapy
 *mucin: EC, endogenous compound

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 nephritis
 thyroid disease
 human
male
 female
 case report
 aged
 article
 Drug Descriptors:
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 *mucin: EC, endogenous compound

cholinergic receptor blocking agent: AE, adverse drug reaction
psychotropic agent: AE, adverse drug reaction
antihistaminic agent: AE, adverse drug reaction
diuretic agent: AE, adverse drug reaction
nortriptyline: AE, adverse drug reaction
antidepressant agent: AE, adverse drug reaction

RN (pilocarpine) 148-72-1, 54-71-7, 92-13-7; (nortriptyline) 72-69-5,
894-71-3

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diuretic agent: AE, adverse drug reaction
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antidepressant agent: AE, adverse drug reaction

RN (pilocarpine) 148-72-1, 54-71-7, 92-13-7; (nortriptyline) 72-69-5,
894-71-3

L27 ANSWER 2 OF 7 MEDLINE on STN
 AN 2001118194 MEDLINE
 DN 21069251 PubMed ID: 11155158
 TI **Salivary mucin** as related to oral Streptococcus mutans
 in elderly people.
 AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
 CS Department of General Practice, School of Dentistry, Virginia Commonwealth
 University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
 NC RO1 DE 06892 (NIDCR)
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 CN 0 (MG1 protein); 0 (**Mucins**); 0 (**Salivary** Proteins); 0
 (human **salivary mucin** MG2)

27 ANSWER 5 OF 7 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V. on STN
 AN 93207515 EMBASE
 DN 1993207515
 TI Sialochemistry: A diagnostic tool?.
 AU Aguirre A.; Testa-Weintraub L.A.; Banderas J.A.; Haraszthy G.G.; Reddy M.S.; Levine M.J.
 CS Oral Biol./Dental Res. Inst. Dept., School of Dental Medicine, State University of New York, Buffalo, NY 14214, United States
 SO Critical Reviews in Oral Biology and Medicine, (1993) 4/3-4 (343-350). ISSN: 1045-4411 CODEN: CROME
 CY United States
 DT Journal; Conference Article
 FS 005 General Pathology and Pathological Anatomy
 011 Otorhinolaryngology
 029 Clinical Biochemistry
 LA English
 SL English
 CT Medical Descriptors:
 *saliva
 adult
 aged
 antifungal activity
 antimicrobial activity
 bacterial colonization
 chromatography
 conference paper
 controlled study
 dental caries: DI, diagnosis
 enzyme linked immunosorbent assay
 female
 human
 human experiment
 immunoblotting
 male
 parotid gland
 periodontal disease: DI, diagnosis
 polyacrylamide gel electrophoresis
 saliva analysis
 salivary gland disease: DI, diagnosis
 salivation
 xerostomia: DI, diagnosis
 Drug Descriptors:
 *amylase: EC, endogenous compound
 *histatin: EC, endogenous compound
 *immunoglobulin a: EC, endogenous compound
 *lactoferrin: EC, endogenous compound
 *lysozyme: EC, endogenous compound
 *mucin: EC, endogenous compound
 *proline: EC, endogenous compound
 amino acid: EC, endogenous compound
 cystatin: EC, endogenous compound
 cysteine proteinase: EC, endogenous compound
 glycoprotein: EC, endogenous compound
 saliva protein: EC, endogenous compound
 statherin: EC, endogenous compound
 RN (amylase) 9000-90-2, 9000-92-4, 9001-19-8; (lactoferrin) 55599-62-7; (lysozyme) 9001-63-2; (proline) 147-85-3, 7005-20-1; (amino acid) 65072-01-7; (cystatin) 81989-95-9; (cysteine proteinase) 37353-41-6; (statherin) 113690-57-6

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 adult
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 (statherin) 113690-57-6

27 ANSWER 4 OF 7 MEDLINE on STN
 AN 93351722 MEDLINE
 DN 93351722 PubMed ID: 8349009
 TI Control of **mucin** molecular forms expression by **salivary**
 protease: differences with caries.
 AU Slomiany B L; Piotrowski J; Czajkowski A; Slomiany A
 CS Research Center, New Jersey Dental School, University of Medicine and
 Dentistry of New Jersey, Newark 07103-2400.
 SO INTERNATIONAL JOURNAL OF BIOCHEMISTRY, (1993 May) 25 (5) 681-7.
 Journal code: 0250365. ISSN: 0020-711X.
 CY ENGLAND: United Kingdom
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 199309
 ED Entered STN: 19931001
 Last Updated on STN: 20000303
 Entered Medline: 19930916
 AB 1. A protease activity capable of degradation of the high mol. wt
salivary mucus glycoprotein to a low mol. wt glycoprotein form was
 identified in human submandibular gland secretion. 2. The protease
 exhibited optimum activity at pH 7.0-7.4, and gave on SDS-PAGE under
 reducing conditions two major protein bands of 48 and 53 kDa. The enzyme
 showed susceptibility to PMSF, alpha lantitrypsin, and egg white and
 soybean inhibitors, a characteristic typical to serine proteases. 3. The
 activity of the protease towards the high mol. wt mucus glycoprotein was
 found to be 3.8-fold higher in submandibular gland secretion of
 caries-resistant individuals than that of caries-susceptible.
 Furthermore, the enzyme from both groups displayed greater activity
 against the mucus glycoprotein of caries-resistant subjects. 4. Since the
 low mol. wt **salivary** mucus glycoprotein form is more efficient
 in bacterial clearance than the high mol. wt **mucin**, the enhanced
 expression of this indigenous **salivary** protease activity towards
mucin may be the determining factor in the resistance to caries.
 CT Check Tags: Animal; Human; **Male**
 ***Dental Caries: EN, enzymology**
 Disease Susceptibility
 Electrophoresis, Polyacrylamide Gel
 Glycoproteins: CH, chemistry
 *Glycoproteins: ME, metabolism
 Hydrogen-Ion Concentration
 Molecular Weight
 Mucins: CH, chemistry
 ***Mucins: ME, metabolism**
 Phenylmethylsulfonyl Fluoride: PD, pharmacology
 Rats
 Rats, Sprague-Dawley
 Saliva: CH, chemistry
 ***Saliva: EN, enzymology**
 *Serine Endopeptidases: ME, metabolism
 Submandibular Gland: CH, chemistry
 Trypsin Inhibitors: PD, pharmacology
 RN 329-98-6 (Phenylmethylsulfonyl Fluoride)
 CN 0 (Glycoproteins); 0 (**Mucins**); 0 (Trypsin Inhibitors); EC 3.4.21
 (Serine Endopeptidases)

27 ANSWER 4 OF 7 MEDLINE on STN
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 Phenylmethylsulfonyl Fluoride: PD, pharmacology
 Rats
 Rats, Sprague-Dawley
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 ***Saliva: EN, enzymology**
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 RN 329-98-6 (Phenylmethylsulfonyl Fluoride)
 CN 0 (Glycoproteins); 0 (**Mucins**); 0 (Trypsin Inhibitors); EC 3.4.21
 (Serine Endopeptidases)

L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1966:96056 CAPLUS

DN 64:96056

OREF 64:18134a-c

TI Changes in protein and glycoprotein concentrations in human submaxillary saliva under various stimulatory conditions

AU Caldwell, R. C.; Pigman, W.

CS Univ. of Alabama Med. Center, Birmingham

SO Archives of Oral Biology (1966), 11(4), 437-49

CODEN: AOBIAR; ISSN: 0003-9969

DT Journal

LA English

CC 65 (Mammalian Biochemistry)

AB Concns. of protein and protein-bound carbohydrates in human submaxillary saliva depended on the salivary flow rate and not on the specific type of gustatory stimulus. "Unstimulated" saliva had the highest concn. of protein-bound carbohydrates. Low flow rates were assocd. with low concn. of protein and protein-bound carbohydrates; as the flow rate increased, there was an increase in concn. of these substances. Protein concn. averaged 122 mg. %; however, the change in concn. from lowest to highest value recorded represented an increase of 1600%. Concn. of protein-bound carbohydrates varied as much as 450% in the case of galactose. Av. concns. for protein-bound carbohydrates were galactose 395, hexosamine 290, **sialic acid** 151, and fucose 160 .mu.M. Secretors of blood group substances had concn. of protein-bound carbohydrates higher than nonsecretors, except for **sialic acid** concn. which was similar for the 2 groups. The **sialic acid**/fucose ratio for secretors was 0.64 and did not vary with flow rate. This ratio for nonsecretors was 1.40 and rose with increasing flow rate.

IT Saliva

(glycoproteins and proteins in, salivary flow in relation to)

IT Glycoproteins

(in saliva, flow in relation to)

IT Proteins

(of saliva, flow in relation to)

L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2003 ACS on STN

AN 1966:96056 CAPLUS

DN 64:96056

OREF 64:18134a-c

TI Changes in protein and glycoprotein concentrations in human submaxillary saliva under various stimulatory conditions

AU Caldwell, R. C.; Pigman, W.

CS Univ. of Alabama Med. Center, Birmingham

SO Archives of Oral Biology (1966), 11(4), 437-49

CODEN: AOBIAR; ISSN: 0003-9969

DT Journal

LA English

CC 65 (Mammalian Biochemistry)

AB Concns. of protein and protein-bound carbohydrates in human submaxillary saliva depended on the salivary flow rate and not on the specific type of gustatory stimulus. "**Unstimulated**" saliva had the highest concn. of protein-bound carbohydrates. Low flow rates were assocd. with low concn. of protein and protein-bound carbohydrates; as the flow rate increased, there was an increase in concn. of these substances. Protein concn. averaged 122 mg. %; however, the change in concn. from lowest to highest value recorded represented an increase of 1600%. Concn. of protein-bound carbohydrates varied as much as 450% in the case of galactose. Av. concns. for protein-bound carbohydrates were galactose 395, hexosamine 290, **sialic acid** 151, and fucose 160 .mu.M. Secretors of blood group substances had concn. of protein-bound carbohydrates higher than nonsecretors, except for **sialic acid** concn. which was similar for the 2 groups. The **sialic acid**/fucose ratio for secretors was 0.64 and did not vary with flow rate. This ratio for nonsecretors was 1.40 and rose with increasing flow rate.

IT Saliva

(glycoproteins and proteins in, salivary flow in relation to)

IT Glycoproteins

(in saliva, flow in relation to)

IT Proteins

(of saliva, flow in relation to)

L4 ANSWER 1 OF 4 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
 DUPLICATE 1
 AN 2001:150662 BIOSIS
 DN PREV200100150662
 TI Evaluation of salivary **sialic acid** level and Cu-Zn
 superoxide dismutase activity in type 1 diabetes mellitus.
 AU Belce, Ahmet; Uslu, Ezel; Kucur, Mine; Umut, Meltem; Ipbuker, Ali; Seymen,
 H. Oktay (1)
 CS (1) Department of Physiology, Barbaros Mah., Sedef Sok., Onur Sitesi, 9/23
 Uskudar, Istanbul, 81150: seymeno@yahoo.com Turkey
 SO Tohoku Journal of Experimental Medicine, (November, 2000) Vol. 192, No. 3,
 pp. 219-225. print.
 ISSN: 0040-8727.
 DT Article
 LA English
 SL English
 AB In this study, our aim was to determine whether or not type 1 diabetes
 mellitus affects salivary **sialic acid** level and SOD
 activity. For this purpose, **unstimulated saliva**
 specimen was collected. Saliva **sialic acid** level and
 SOD activity were measured by the methods of Warren and Sun, respectively.
 We found significantly decline in salivary **sialic acid**
 level and SOD activity. The decrease of salivary **sialic**
acid level in type 1 diabetes may be due to changes in the
 activities of the enzymes taking part of in the synthesis and catabolism
 of **sialic acid**. The main reason for the decrease of
 salivary SOD activity may be increased glycation of the enzyme and/or
 deleterious effect of increased free oxygen radicals by glycated proteins
 on SOD activity in diabetes. We conclude the decline both in
sialic acid and SOD in saliva may be a possible factor
 leading to oral complications of diabetes mellitus.
 CC Biochemical Studies - General *10060
 Biochemical Studies - Carbohydrates *10068
 Metabolism - General Metabolism; Metabolic Pathways *13002
 Metabolism - Metabolic Disorders *13020
 Endocrine System - Pancreas *17008
 Dental and Oral Biology - Physiology and Biochemistry *19004
 Immunology and Immunochemistry - Immunopathology, Tissue Immunology
 *34508
 BC Hominidae 86215
 IT Major Concepts
 Biochemistry and Molecular Biophysics; Metabolism
 IT Parts, Structures, & Systems of Organisms
 saliva: dental and oral system
 IT Diseases
 type 1 diabetes mellitus: endocrine disease/pancreas, immune system
 disease, metabolic disease
 IT Chemicals & Biochemicals
 copper-zinc superoxide dismutase: activity; **sialic**
acid: evaluation, salivary
 IT Alternate Indexing
 Diabetes Mellitus, Insulin-Dependent (MeSH)
 ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
 ORGN Organism Name
 human (Hominidae)
 ORGN Organism Superterms
 Animals; Chordates; Humans; Mammals; Primates; Vertebrates

> d his

(FILE 'HOME' ENTERED AT 15:00:57 ON 24 AUG 2003)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT
15:01:14 ON 24 AUG 2003

L1	317 S MUC7? AND MUCIN
L2	0 S L1 AND SLAIVA?
L3	140 S L1 AND SALIVA?
L4	22 S L3 AND DISEASE
L5	3 S L4 AND (SIALIC ACID)
L6	1 DUPLICATE REMOVE L5 (2 DUPLICATES REMOVED)
L7	1 S L1 AND (DENTAL CARIES)
L8	0 S L1 AND DFT?
L9	1 S L1 AND DMF?
L10	0 S L1 AND DMFS?

=>

L7 ANSWER 1 OF 1 MEDLINE on STN
 AN 2001118194 MEDLINE
 DN 21069251 PubMed ID: 11155158
 TI Salivary **mucin** as related to oral Streptococcus mutans in elderly people.
 AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
 CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
 NC R01 DE 06892 (NIDCR)
 SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
 Journal code: 8707451. ISSN: 0902-0055.
 CY Denmark
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Dental Journals
 EM 200102
 ED Entered STN: 20010322
 Last Updated on STN: 20010322
 Entered Medline: 20010215
 AB MG1 (MUC5b and MUC4) and MG2 (**MUC7**), predominant **mucins** in human whole saliva, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole saliva flow rates; decayed, missing, and filled tooth surfaces; and age of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole saliva, as quantified in **mucin**-dye binding units.
 CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
 Aged
 Aged, 80 and over
 *Aging: PH, physiology
 DMF Index
 Dental Care for Aged
Dental Caries: MI, microbiology
 Electrophoresis, Polyacrylamide Gel
 Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
 Risk Assessment
 *Saliva: MI, microbiology
 Saliva: PH, physiology
 Saliva: SE, secretion
 Salivary Proteins: AN, analysis
 *Salivary Proteins: PH, physiology
 *Streptococcus mutans: IP, isolation & purification
 CN 0 (MG1 protein); 0 (**Mucins**); 0 (Salivary Proteins); 0 (human salivary **mucin** MG2)

=>

L6 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2003 ACS on STN DUPLICATE 1
 AN 2001:870555 CAPLUS
 DN 137:61546
 TI Altered sialyl- and fucosyl-linkage on **mucins** in cystic fibrosis patients promotes formation of the sialyl-Lewis X determinant on **salivary** MUC-5B and MUC-7
 AU Shori, D. K.; Genter, T.; Hansen, J.; Koch, C.; Wyatt, H.; Kariyawasam, H. H.; Knight, R. A.; Hodson, M. E.; Kalogeridis, A.; Tsanakas, I.
 CS Dept. of Oral Pathology, King's College London, Rayne Institute, SE5 9NU, UK
 SO Pfluegers Archiv (2001), 443(Suppl. 1), S55-S61
 CODEN: PFLABK; ISSN: 0031-6768
 PB Springer-Verlag
 DT Journal
 LA English
 CC 14-14 (Mammalian Pathological Biochemistry)
 Section cross-reference(s): 15
 AB Destruction of the lungs as a consequence of recurrent infections with microorganisms such as *Pseudomonas aeruginosa* remains the underlying cause of most morbidity and mortality in cystic fibrosis (CF). We have hypothesized that changes in the glycosylation of key tracheal **mucins** such as MUC5B and **MUC7** might increase the risk of pulmonary **disease** in CF patients. However, in preference to sputum we have examd. the sugar-chains on these **mucins** in **saliva** because in the latter not only can the glycoproteins be collected from controls, but they are essentially free from modifications made following bacterial infection in **disease**. Proteins in ductal or whole-mouth **saliva** from 20 CF patients with the .DELTA.F-508 CFTR mutation and age-and sex-matched controls were sepd. by SDS-PAGE and blotted onto nitrocellulose and then probed with labeled lectins of known specificity. Linkage of terminal **sialic acid** on the blotted **mucins** was detd. using Sambucus nigra agglutinin (detects the 2.fwdarw.6 linkage) and Maackia amurensis agglutinin (the 2.fwdarw.3 linkage). Fucose was detected by Ulex europaeus agglutinin-1 (1-2 linkage) and Aleuria aurantia agglutinin (1.fwdarw.3 linkage). We found that each **mucin** shows a characteristic glycosylation pattern and in controls most of the **sialic acid** is 2.fwdarw.6 linked on MG1 (MUC 5B) and 2.fwdarw.3 linked on MG2 (MUC 7). CF is assocd. with a shift from a 2.fwdarw.6 linkage to a 2.fwdarw.3 linkage on MG1 with some patients showing almost no 2.fwdarw.6 linkage; 2.fwdarw.3 linkage on MG2 is similarly increased in **disease** in some individuals. The expression of fucose on these **mucins** is also raised in CF patients. These shift to a 2.fwdarw.3 linkage of **sialic acid**, and with increased fucosylation this promotes the formation of sialyl-Lewis X antigen detected on CF **mucins** in our study. These shift to a 2.fwdarw.3 linkage of **sialic acid**, and with increased fucosylation this promotes the formation of sialyl-Lewis X antigen detected on CF **mucins** in our study. These changes will be tested for their correlation with the severity of lung **disease**.
 ST sialyl fucosyl linkage cystic fibrosis; CFTR gene mutation MG1 MG2 **mucin** sialylLewisX complex
 IT **Sialic acids**
 RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)
 (2.fwdarw.6 linkage and 2.fwdarw.3 linkage; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins** -induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)
 IT Cystic fibrosis
 Human

adonis
check dble

date no
good
11/2001

Mutation
Risk assessment

Saliva

Salivary gland

Trachea (anatomical)

(CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT CFTR (cystic fibrosis transmembrane conductance regulator)

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT Gene, animal

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(CFTR; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT Blood-group substances

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(Lex, sialyl, complex; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT **Mucins**

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(MG1; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT **Mucins**

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(MG2; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT Galactosylation

(fucosylation; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT **Mucins**

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(sialomucin; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT 2438-80-4, L-Fucose

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(.alpha.-2.fwdarw.6 linkage; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (1) Barasch, J; J Cell Sci Suppl 1993, V17, P229 MEDLINE
- (2) Barasch, J; Nature 1991, V352, P70 CAPLUS
- (3) Cacalano, G; J Clin Invest 1992, V89, P1866 CAPLUS
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- (23) Sharma, P; Am J Respir Cell Mol Biol 1998, V19, P30 CAPLUS
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- (28) Zhang, X; Glycoconjugate J 1996, V13, P91 CAPLUS
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=>

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 DN 137:61546
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 CS Dept. of Oral Pathology, King's College London, Rayne Institute, SE5 9NU, UK
 SO Pfluegers Archiv (2001), 443(Suppl. 1), S55-S61
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 PB Springer-Verlag
 DT Journal
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 IT Cystic fibrosis
 Human

Mutation

Risk assessment

Saliva

Salivary gland

Trachea (anatomical)

(CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

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(Lex, sialyl, complex; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

IT **Mucins**

RL: ADV (Adverse effect, including toxicity); BSU (Biological study, unclassified); BIOL (Biological study)

(MG1; CFTR gene mutation assocd. with altered sialyl- and fucosyl-linkage on MG1 and MG2 **mucins**-induced formation of sialyl-Lewis X complexes in human with cystic fibrosis)

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IT Galactosylation

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L7 ANSWER 1 OF 1 MEDLINE on STN
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 AU Baughan L W; Robertello F J; Sarrett D C; Denny P A; Denny P C
 CS Department of General Practice, School of Dentistry, Virginia Commonwealth University, Box 980566 MCV Station, Richmond, VA 23298-0566, USA.
 NC RO1 DE 06892 (NIDCR)
 SO ORAL MICROBIOLOGY AND IMMUNOLOGY, (2000 Feb) 15 (1) 10-4.
 Journal code: 8707451. ISSN: 0902-0055.
 CY Denmark
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Dental Journals
 EM 200102
 ED Entered STN: 20010322
 Last Updated on STN: 20010322
 Entered Medline: 20010215
 AB MG1 (MUC5b and MUC4) and MG2 (**MUC7**), predominant **mucins** in human whole saliva, provide lubrication and antimicrobial protection for oral tissues. This study examines potential relationships between Streptococcus mutans titers in the oral cavity and the following: **mucin** concentrations; unstimulated and stimulated whole saliva flow rates; decayed, missing, and filled tooth surfaces; and age of 24 elderly patients. S. mutans titers were determined using Denticult SM. **Mucin** concentrations were determined using Stains-all, sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Logistic regression was used to identify potential relationships between the above variables. S. mutans classification served as the dependent variable. The remaining variables were possible predictor variables. The best model for predicting S. mutans category contained log MG2 as a predictor variable for all of its parameter estimates. No other set of parameter estimates were statistically significant. These results suggest that elevated S. mutans titers are significantly associated with diminished concentrations of MG2 in unstimulated whole saliva, as quantified in **mucin**-dye binding units.
 CT Check Tags: Female; Human; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
 Aged
 Aged, 80 and over
 *Aging: PH, physiology
 DMF Index
 Dental Care for Aged
Dental Caries: MI, microbiology
 Electrophoresis, Polyacrylamide Gel
 Logistic Models
Mucins: AN, analysis
***Mucins: PH, physiology**
 Risk Assessment
 *Saliva: MI, microbiology
 Saliva: PH, physiology
 Saliva: SE, secretion
 Salivary Proteins: AN, analysis
 *Salivary Proteins: PH, physiology
 *Streptococcus mutans: IP, isolation & purification
 CN 0 (MG1 protein); 0 (**Mucins**); 0 (Salivary Proteins); 0 (human salivary **mucin** MG2)

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(FILE 'HOME' ENTERED AT 15:00:57 ON 24 AUG 2003)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT
15:01:14 ON 24 AUG 2003

L1	317 S MUC7? AND MUCIN
L2	0 S L1 AND SLAIVA?
L3	140 S L1 AND SALIVA?
L4	22 S L3 AND DISEASE
L5	3 S L4 AND (SIALIC ACID)
L6	1 DUPLICATE REMOVE L5 (2 DUPLICATES REMOVED)
L7	1 S L1 AND (DENTAL CARIES)
L8	0 S L1 AND DFT?
L9	1 S L1 AND DMF?
L10	0 S L1 AND DMFS?

=>

L4 ANSWER 5 OF 5 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
 DUPLICATE 5
 AN 1997:107536 BIOSIS
 DN PREV199799406739
 TI Differential expression of human high-molecular-weight salivary
mucin (MG1) and low-molecular-weight salivary **mucin**
 (MG2).
 AU Nielsen, P. A. (1); Mandel, U.; Therkildsen, M. H.; Clausen, H.
 CS (1) Dep. Oral Diagn., Fac. Health Sci., Sch. Dent., Univ. Copenhagen,
 Norre Alle 20, 2200 Copenhagen N Denmark
 SO Journal of Dental Research, (1996) Vol. 75, No. 11, pp. 1820-1826.
 ISSN: 0022-0345.
 DT Article
 LA English
 AB Two distinct **mucin** components of **saliva**, MG1 and MG2,
 have been identified based on chemical composition and molecular weights
 (high and low, respectively) in **saliva**. With the aim of
 characterizing the expression pattern of salivary **mucins**, we
 have prepared monoclonal antibodies (MABs) directed against the peptide
 core of MG1 and against a synthetic peptide derived from the MG2 (**MUC7**)
 sequence. MAB PANH2 raised against partially deglycosylated
 MG1 stained a high-molecular-weight smear in Western blots of partially
 purified MG1. PANH2 binding was increased by deglycosylation with
 trifluoromethanesulfonic acid as well as with subsequent periodate
 treatment, and was eliminated by pronase treatment, strongly suggesting
 that MAB PANH2 was directed to a peptide epitope of MG1. MAB PANH3 raised
 against a synthetic peptide derived from the MG2 (**MUC7**) sequence
 reacted with the native molecule and stained a narrow smear of ca. 200,000
 to 210,000 in Western blots of concentrated **saliva** and a
 lower-molecular-weight smear of trifluoromethanesulfonic-acid-treated MG2.
 Immunohistology on frozen sections of human salivary glands showed that
 MAB PANH2 selectively labeled mucous cells, whereas MAB PANH3 labeled
 subpopulations of serous cells. Double-direct immunofluorescence staining
 with PANH2 and PANH3 demonstrated that the staining patterns were
 non-overlapping. The development of these antibody probes will facilitate
 studies of **mucin** expression in **diseases** of salivary
 glands.
 CC Microscopy Techniques - Histology and Histochemistry 01056
 Biochemical Methods - Proteins, Peptides and Amino Acids 10054
 Biochemical Methods - Carbohydrates 10058
 Biochemical Studies - Proteins, Peptides and Amino Acids 10064
 Biochemical Studies - Carbohydrates 10068
 Biophysics - Molecular Properties and Macromolecules *10506
 Metabolism - Carbohydrates *13004
 Metabolism - Proteins, Peptides and Amino Acids *13012
 Blood, Blood-Forming Organs and Body Fluids - Other Body Fluids *15010
 Dental and Oral Biology - Physiology and Biochemistry *19004
 Temperature: Its Measurement, Effects and Regulation - Cryobiology 23004
 Immunology and Immunochemistry - General; Methods *34502
 BC Hominidae *86215
 IT Major Concepts
 Biochemistry and Molecular Biophysics; Dental and Oral System
 (Ingestion and Assimilation); Metabolism; Physiology
 IT Miscellaneous Descriptors
 ANALYTICAL METHOD; DIFFERENTIAL EXPRESSION; DOUBLE-DIRECT
 IMMUNOFLUORESCENCE STAINING; HIGH-MOLECULAR WEIGHT SALIVARY
MUCIN; LOW-MOLECULAR WEIGHT SALIVARY **MUCIN**; MG1
MUCIN; MG2 **MUCIN**; ORAL SYSTEM
 ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
 ORGN Organism Name
 human (Hominidae)

ORGN Organism Superterms

animals; chordates; humans; mammals; primates; vertebrates

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 Immunohistology on frozen sections of human salivary glands showed that
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 Biochemical Methods - Carbohydrates 10058
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 Blood, Blood-Forming Organs and Body Fluids - Other Body Fluids *15010
 Dental and Oral Biology - Physiology and Biochemistry *19004
 Temperature: Its Measurement, Effects and Regulation - Cryobiology 23004
 Immunology and Immunochemistry - General; Methods *34502
 BC Hominidae *86215
 IT Major Concepts
 Biochemistry and Molecular Biophysics; Dental and Oral System
 (Ingestion and Assimilation); Metabolism; Physiology
 IT Miscellaneous Descriptors
 ANALYTICAL METHOD; DIFFERENTIAL EXPRESSION; DOUBLE-DIRECT
 IMMUNOFLUORESCENCE STAINING; HIGH-MOLECULAR WEIGHT SALIVARY
MUCIN; LOW-MOLECULAR WEIGHT SALIVARY **MUCIN**; MG1
MUCIN; MG2 **MUCIN**; ORAL SYSTEM
 ORGN Super Taxa
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
 ORGN Organism Name
 human (Hominidae)

ORGN Organism Superterms

animals; chordates; humans; mammals; primates; vertebrates

L4 ANSWER 3 OF 5 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
 DUPLICATE 3
 AN 2001:290574 BIOSIS
 DN PREV200100290574
 TI Genetic polymorphism of **MUC7**: Allele frequencies and association
 with asthma.
 AU Kirkbride, Helen J.; Bolscher, Jan G.; Nazmi, Kamran; Vinall, Lynne E.;
 Nash, Matthew W.; Moss, Fiona M.; Mitchell, David M.; Swallow, Dallas M.
 (1)
 CS (1) Galton Lab, University College London, 4 Stephenson Way, London, NW1
 2HE: dswallow@hgmprc.mrc.ac.uk UK
 SO European Journal of Human Genetics, (May, 2001) Vol. 9, No. 5, pp.
 347-354. print.
 ISSN: 1018-4813.
 DT Article
 LA English
 SL English
 AB **MUC7** encodes a small salivary **mucin**, previously called
 MG2, a glycoprotein with a putative role in facilitating the clearance of
 oral bacteria. The central domain of this glycoprotein was previously
 shown to comprise five or six tandemly repeated units of 23 amino-acids
 which carry most of the O-linked glycans. The polymorphism of these two
 allelic forms (**MUC7*5** or **MUC7*6**) has been confirmed in
 this study in which we have analysed a large cohort of subjects (n=375) of
 various ethnic origins. We have also identified a novel rare allele with
 eight tandem repeats (**MUC7*8**). **MUC7*6** was the most
 common allele (0.78-0.95) in all the populations tested. The tandem repeat
 arrays of 22 **MUC7*5** alleles and 34 **MUC7*6** alleles were
 sequenced. No sequence differences were detected in any of the
MUC7*6 alleles. Twenty-one **MUC7*5** alleles sequenced
 lacked the 4th tandem repeat (structure TR12356), while one showed the
 structure TR12127. The structure of the **MUC7*8** allele was
 TR12343456. Because of the known role of **MUC7** in bacterial
 binding, and thus its potential involvement in susceptibility to chest
disease we also tested **MUC7** in our previously described
 series of Northern European atopic individuals with and without associated
 asthma. The **MUC7*5** allele was rarer in the atopic asthmatics
 than in the atopic non-asthmatics (P=0.014, OR for no asthma in atopic
 individuals 3.13, CI 1.01-6.10), and the difference in frequency between
 all asthmatics and all non-asthmatics was statistically significant
 (P=0.009) while there was no difference between atopy and non-atopy
 (P=0.199). In this study we also report the electrophoretic analysis of
 the **MUC7** glycoprotein in **saliva** from individuals of
 different **MUC7** genotype.
 CC Allergy *35500
 Genetics and Cytogenetics - General *03502
 Genetics and Cytogenetics - Human *03508
 Biochemical Studies - Proteins, Peptides and Amino Acids *10064
 Respiratory System - Pathology *16006
 Immunology and Immunochemistry - General; Methods *34502
 Immunology and Immunochemistry - Immunopathology, Tissue Immunology
 *34508
 BC Hominidae 86215
 IT Major Concepts
 Molecular Genetics (Biochemistry and Molecular Biophysics); Immune
 System (Chemical Coordination and Homeostasis)
 IT Diseases
 asthma: immune system **disease**, respiratory system
disease
 IT Chemicals & Biochemicals
mucin
 IT Alternate Indexing

Asthma (MeSH)
IT Miscellaneous Descriptors
allele frequencies; tandem repeat
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates
GEN human MUC-7 gene (Hominidae): polymorphism, small salivary **mucin**
gene